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EXAMINER

LUK, EMMANUEL S

ART UNIT PAPER NUMBER

1722

DATE MAILED: 01/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/553,807

Applicant(s)

THOMAS, RONALD

Examiner

Emmanuel S. Luk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 15 been renumbered to claim 14.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 3, 4 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Kazmer et al.

Kazmer teaches a molding chamber (7), a hollow conduit (47), a pin extending into the conduit with an enlarge distal portion (95), an actuator (49), the pin reciprocable in and out of the conduit, the pin having a pressure surface (45) exposed to the pressurized fluid in the closed position (Fig. 2). The actuator is an electronic (electromagnetic actuator) or hydraulic actuator (Col. 4, lines 51-55). The hydraulic actuator (49) being the variable pressure fluid reservoir that is independent of the pressurized fluid supply, the pressurized fluid supply is coming from the injection molding machine (11).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claims 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter et al (5997783) in view of Sugiyama (5295801).

Hunter teaches a hollow passage (125), a chamber (32), a pin (135) with enlarged distal end (140b) for blocking the end of the passage with pressure surface (Fig. 11) on the distal portion, pin having a selectable actuator (120) coupled to the proximal end of the pin having the pin selectively reciprocable in and out of the passage. The actuator is a pressure cylinder (120).

Hunter fails to teach a pressurized fluid supply.

Sugiyama teaches a pressurized fluid supply.

It would have been obvious to one of ordinary skill in the art to modify Hunter with a pressurized fluid supply as taught by Sugiyama because it allows for fluid to flow into the cavity for hollow injection molding.

7. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazmer et al (6361300 B1) in view of Sugiyama et al (5295801).

Kazmer teaches a molding chamber (7), a hollow conduit (47), a pin extending into the conduit with an enlarge distal portion (95), an electronic actuator, the pin reciprocable in and out of the conduit independent of the gas with the electronic actuator (Col. 4, lines 51-55), the enlarged portion mating with a tapered contour. A PID and CPU controller is provided for controlling the reciprocation of the pin (Fig. 1A).

Kazmer fails to teach a supply of pressurized gas and biasing means.

Sugiyama teaches a nozzle apparatus for the introduction of pressurized gas (4) into the mold (2) and the actuator (123) having biasing means (7) located at one end to

bias the pin to a closed position of cutting off the flow. The use of biasing means to move the pin, one skilled in the art would recognize the use

It would have been obvious to one of ordinary skill in the art to modify Kazmer to have pressurized gas to flow into the mold and to have a biasing element as taught by Sugiyama for the purpose of injecting gas into the mold.

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kazmer et al (6361300 B1) in view of Sugiyama et al (5295801) as applied to claims 7-10 above, and further in view of Tamaki et al (6132198).

Kazmer fails to teach the pin is magnetically biased toward the closed position.

The use of magnetic in an electronic actuator (or motor) is well known in the arts, Tamaki teaches the use of the linear motor to actuate a clamping device. The movement of the pin would be magnetically biased in a particular direction, thus it would have been obvious to one of ordinary skill in the art to recognize that the electronic actuators taught by Kazmer would have magnetically bias the pins towards either position depending on the operation and as taught by Tamaki. Additionally, it would have also been obvious to one of ordinary skill in the art to modify Kazmer with a electronic actuator as taught by Tamaki that further shows the magnetic biasing of the elements because it allows for an apparatus that is simple and small (Col. 1, lines 49-50).

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9. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazmer et al (6361300 B1) in view of Sugiyama et al (5295801) and Watanabe et al (5196213).

Kazmer teaches a molding chamber (7), a hollow conduit (47), a pin extending into the conduit with an enlarge distal portion (95), an actuator (49), the pin reciprocable in and out of the conduit, the pin having a pressure surface (45) exposed to the pressurized fluid in the closed position (Fig. 2). The actuator is an electronic (electromagnetic actuator) or hydraulic actuator (Col. 4, lines 51-55). The hydraulic actuator (49) being the variable pressure fluid reservoir that is independent of the pressurized fluid supply, the pressurized fluid supply is coming from the injection molding machine (11).

Kazmer fails to teach a ball screw drive for reciprocating the pin and means for biasing the pin.

Sugiyama teaches a nozzle apparatus for the introduction of pressurized gas (4) into the mold (2) and the actuator (123) having biasing means (7) located at one end to bias the pin to a position of cutting off the flow.

Watanabe teaches a ball screw drive (Fig. 1) for actuating an ejector mechanism. This is an alternative driving means for various actuators that one skilled in the art would recognize as a substitute for hydraulic or electronic actuators.

It would have been obvious to one of ordinary skill in the art to modify Kazmer to have a biasing element as taught by Sugiyama for the purpose of controlling the

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injection of gas into the mold and a ball screw drive as taught by Watanabe because it provides a mechanical alternative to the actuation of the pin.

Response to Arguments

10. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

The changes in the claims introduced that the pin reciprocated by the actuator in both directions without the influence of the pressurized fluid supply and the pressurized fluid supply does not affect the reservoir.

The new rejection addresses the amended claims.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (571) 272-1134. The examiner can normally be reached on Monday-Thursday 7 to 4 and alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on (571) 272-1151. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

EL


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